Letters to the Editor

The Board of Editors will not hold itself responsible for opinions expressed in the letters published in this section. The notes containing reports of new work communicated for this section should not contain many figures and should not exceed 500 words in length. The contributions must reach the Assistant Editor not later than the 15th of the second month preceding that of the issue in which the letter is to appear. No proof will be sent to the authors.

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LATITUDE DEPENDENCE OF NUCLEONIC INTENSITY DURING AUGUST 24 - SEPTEMBER 20, 1957

LEKH VIR AND P. S. GILL

GULMARG RESEARCH OBSERVATORY, GULMARG).

As early as 1933, Messerschmidt (1933) and Steinmaurer and Graziadei (1933) observed a decrease in cosmic ray intensity during a magnetic storm. However, Forbush (1937) incorporating Cheltenham and Huancayo data with that of Hafelekar obtained by Hess and Demmelmair (1937) established the world-wide character of the decrease in cosmic ray intensity with magnetic storm. Since then various reports of such decreases have appeared in literature.

Various methods for measuring the amplitude of the decreases have been adopted by different workers. In this note, we have followed the method suggested by McCracken and Johns (1959). According to it, where the correlation coefficient between any two sets of data R_1 and R_2 is greater than 0.8, the measure of relative amplitude is defined as $(\sigma_1/R_1)/(\sigma_2/R_2)$ where

$$\sigma_1 = \sqrt{\frac{1}{N-1}\Sigma(R_i - \bar{R}_i)^2} \text{ and } \bar{R}_i = \frac{1}{N}\Sigma R_i$$

and R_i is the daily mean intensity.

During the period considered, a large Forbush type decrease in intensity occurred. Using the definition given above, and comparing daily mean data, the relative amplitude of the decrease in the intensity of nucleonic component of cosmic radiation for ten sea-level stations with respect to Huancayo data has been computed. The results are plotted in Fig. 1.

The striking feature of this decrease, as is obvious from the Fig. 1, is that the curve does not flatten out beyond the latitude knee. Instead the relative amplitude goes on increasing even up to 82.9°N. Also the relative amplitude is not symmetrical about the geomagnetic equator.

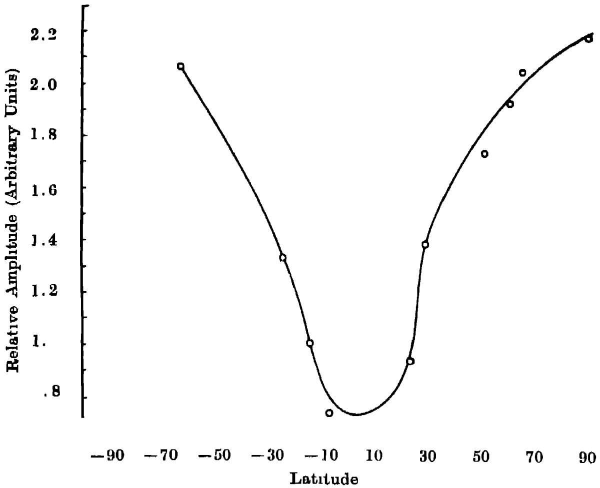

FIG. 1. Latituto dopondonco of a Forbush-type decrease. The relative amplitude is in arbitrary units.

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DEBYE Θ OF SOME CRYSTALS

S. K. JOSHI AND S. S. MITRA*

PHYSICS DEPARTMENT, ALLAHABAD UNIVERSITY, ALLAHABAD-2,

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Because of its inherent relationship with lattice vibrations, Debye characteristic temperature, Θ enters into a large number of solid state problems. The importance of this parameter and the scarcity of the available data have prompted us (Joshi and Mitra, 1960) to calculate and tabulate the Debye temperature of a large number of solids utilising the recent values of their elastic constants. In

* Now at Ontario Research Foundation, Canada,